CHICAGO USERS GROUP

PRESENTS

CHICAGO TIMES

NEWSLETTER OF THE CHICAGO TI-99/4A USERS GROUP

TEXAS INSTRUMENTS ANNOUNCES PURCHASE OF IBM

SEE PAGE 29

MARCH, 31-APRIL 1 1987
EDITOR: Carole Goldstein

THE APRIL MEETING. . . .

will be held on Saturday APRIL 4, 1987 from 1:00 to 3:00 in the Fireside Lounge at Triton College.

→ FILL OUT YOUR QUESTIONAIRE ←
→ SEE INSIDE ←

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Artwork by Buzz Krantz and Dan Gronowski

BULLETINS:

UG HOT LINE NUMBER IS (312)657-1093.

The Beginners SIG will meet shortly after the meeting.

The Pascal SIG will meet shortly after the regular meeting.

MEETING DATES FOR THIS COMING YEAR ARE AS FOLLOWS:

APRIL 4	SEPT 12
MAY 3 (Ironwood Room)	OCT 6
JUNE 6	NOV 7 (TI FAIRE)
	DEC 5

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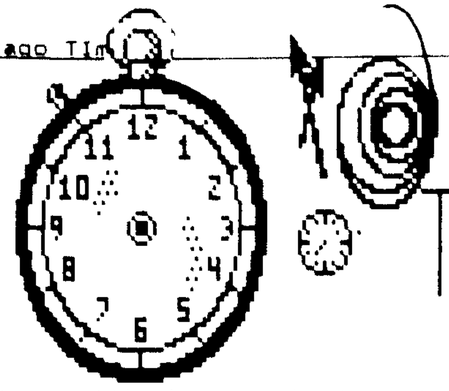


THE DISASSEMBLY

Dave Wakely

This will be a short column for a short month. With only three weeks between meetings this time, there is not much time for my usual ramblings, so instead I will just update a few things and get this to Carole in time for her to avoid the significant stress of trying to get this newsletter out while pleading with procrastinating columnists to get their work done.

It is a bit strange to be writing this column before the previous meeting has even taken place, and no, that is not a contradiction. There is usually enough time for me to review the previous meeting before announcing the next one, but not this time, so I am reviewing the March meeting prior to its taking place. Got that? In that spirit, I hope everyone enjoyed (will enjoy) the printer demo program at the March meeting, and that those of you with Star Micronics printers in particular now find them (will find them) in good working order. We wish to thank (we will thank) the folks at Competition Computer in Milwaukee for their time and effort in putting on a fine program. Provided, of course, that they showed up.

We are winding down to the home stretch of our Chicago TI "season". There are just three meetings left until the summer break. For the April meeting we will be returning to our familiar product demonstrations, showing off new and/or improved software. Between now and then, of course, many of you will be working on the programs you plan to enter into the programming contest, as all entries must be received by the April meeting. In the past we have given away up to $300 in prizes, and have divided the entries into various categories. With a declining number of programs the past few years, this isn't feasible any more. We will still be giving away substantial $$, but all the programs will be equally considered. Or, to put it another way, we would still like to give out prizes to the top five entries, but not if there are ONLY five entries! If you would like a tip as to what to do, in the past few years the top prizes have gone to programs which have the widest applicability to the largest number of users. In other words, practical, usable stuff rather than a virtuoso programming job to do something irrelevant to most of the members. You could probably make a case that this is then not really a contest of "programming", and you would have a point. Consider it a contest of programming applicability if you like. There are still lots of useful applications yet unwritten for the 99/4A.

In May we will be showing off the winning contest entries. Although actually we won't, the winners will. One requirement of the contest is that all winners must give a short demonstration of their work for the group. This isn't as bad as it sounds. In the past some very shy programmers (is there any other kind?) have done an excellent job of demoing their work. There may or may not be other activities at the May meeting, in the past just getting through the contest winners has taken up most of the meeting time.

Last year one of the best group reactions to a meeting was to the June "Auction". Credit for this idea goes to Sam Pincus, who suggested that we obtain hardware and software donated to the group by the memberhip, and then auction it off at the June meeting. My skepticism was fueled by my mistaken belief that the membership would not part with anything of real value, even for the group, and I was concerned how much there would be to sell. Suffice it to say that last year's auction took over two full hours to complete, and, when I thought about it afterwards, I should have known that the membership would come through for us, that all we had to do was ask. Well, here we are asking once again. Take a look at what you have and are using, and consider donating it to the group for the upcoming June auction. So that we can inventory everything, I will keep giving reminders to bring your donations to the May meeting.

There may be more specific details about these meetings as the dates approach. For example, if any new computers should happen to actually manage to find their way into the hands of actual users, it is highly likely that we will do a demonstration. And of course you can continue to count on the meetings as a source of continued TI news and rumors, and where would we all be without those?

The Usual Delay: Remember that Triton Turbo XT I ordered and which was to be shipped the first week of March? Well, surprise, surprise, it hasn't arrived yet. I don't know if I can actually recreate for you the "official explanation" I received from Triton, but it all seemed to boil down to something to do with their RECEIVING the Turbo XT at Triton by the first week of March, and that they would then be filling orders subsequently after they had inspected these units to insure that Triton customers continued to receive only quality items and blah, blah, blah, etc., etc. The bottom line they now give me is four to six more weeks. My translation of the above garbage: "We can't get them, so we can't ship them." Oh. Despite this news, however, several hundred fliers about the Turbo XT were handed out (will be handed out) at the March meeting. Someday there will be a major product for the TI community that arrives, complete, for purchase, and with all required software and/or hardware ready. I hope many of you will come visit me in the hospital on that day.

CHICAGO AREA TI99/4A USERS GROUP
SUMMARY OF CASH TRANSACTIONS
FEBRUARY 1-FEBRUARY 28, 1987

	TOTAL	FAIRE	LIBRARY	MEMBER-SHIP	OTHER
RECEIPTS	2,658.82	0.00	1,009.50	1,112.00	537.32
DISBURSEMENTS:					
MAILING	486.23		80.84	405.39	
DISKS	15.00			15.00	
PRINTING	10.94			10.94	
SUNDRY	124.17				124.17
ANSWERING MACHINE	95.23				95.23
	731.57	0.00	80.84	431.33	219.40
INCREASE IN CASH	1,927.25	-0.00	928.66	680.67	317.92

BASICALLY YOURS

Rich Klein

This month I've been busy with some other things and have had little time to devote to this column. I guess it's just as well, since I am somewhat at a loss to find something to discuss this month. This would be an ideal time to answer a letter, if I had one.

I thought that, since things are somewhat slow, I'd briefly discuss the role people think their TI's should play in their lives. Since there are a host of things to do with it, and more uses springing up every day, this can be confusing.

I would say that most people who purchased TI's saw there purchase as an inexpensive way to explore the world of computers in general. Then, as new things became available, these people purchased them and turned their consoles from low end devices to a respectable utility machine. The nice thing about this is that, in spite of the fact it could rival an APPLE or other such machine, the TI was still the fun machine it started out to be. No other machines can make this claim.

Others purchased their systems to provide a utility function such as business record keeping, or perhaps, for its word processing capabilities. Where else could you purchase a complete word processing system, including software, for less than others would charge for software alone? I'm sure these people also found out how much fun it could be to explore the depths of even these "business" TI's.

Others purchased theirs to learn a programming language. Some opted for the TI Basic inside the console, while others, finding this somewhat limiting, purchased TI Extended Basic with its more powerful command set. Others, including Nick Eye, found Assembly language to be their idea of binary bliss. Still later, some short outspoken people found FORTH to be fulfilling. TI also released U.C.S.D. Pascal with its accompanying P-Code card. This option was not widely explored, probably because of its high price tag.

After TI pulled out, other languages popped up, including TI PILOT and C. I'm sure there are others, but the point is, if you want to program, you can do it on the TI in a variety of ways. I almost forgot to mention that there is Logo and Logo II for kids.

If people didn't want to program their own applications, then they could choose from literally thousands of Command Modules, Disks and Cassettes containing software to perform a myriad of tasks from playing games to Nutrition and weight loss. If you were an engineer, then an engineering library was available. If you were a mathematician, then the math routines library was there. Anything you wanted could be gotten, including the TI Count series capable of running a small business. All this from a "game" machine.

After TI got out of the market they almost singlehandedly destroyed it, consoles and hardware were moved out of stores at unheard of prices. People were snatching them up without regard to what they were going to do with them once they got them home. The more fortunate of these people heard of their local user's group and found uses through them. Others foundered. Some still don't know what they will do with their systems, although they feel obligated to do something.

Some feel they should learn to program. I'm sure some still expect to turn it on and have it automatically set their fiscal lives in order. This is probably one of the biggest misconceptions people have about computers. Others expect to sit down at their consoles and write these wonderful programs without the knowledge of programming or of the field of the application which they are attempting. One can only program a computer to perform a specific task if they can do it without the aid of a computer and also if

they have sufficient knowledge of the language in which they are programming. Without both of these skills, you simply cannot write a program.

Many people expect to sit down and program after only a few hours. Unfortunately, this simply is not possible for most people, if any. To learn a programming language, you must be prepared to spend many long hours on many nights trying out examples and lessons from whatever source you have available. This would include many "what if's" on your part. After you spend the time learning the language, you can try ideas out and hone your skills with progressively more difficult routines. After many tedious hours of trial and error, banging your head against the wall in disgust, and even blaming the computer repeatedly for your mistakes, then you will be ready to write your first real program.

After all that, if you know nothing about, let's say, structural engineering, then you still won't be able write a program that will tell you if there is too much load on a structure you are building. No matter how good you are at programming, if you don't know the subject, you can't program it.

There are alternatives, however. If you want to program something you don't know, there is nothing wrong with enlisting the aid of someone who does know that field of endeavor, and putting his ideas into your program. Of course, he must be able to communicate his ideas in a way that you can understand and convert to computerese. If you approach an application in this way, you will more than likely come away from the experience with a greater understanding of it.

This may all sound rather depressing, but it is a fact. Just like anything else, if you don't put anything into it, you won't get anything out of it. With programming, you start off small and gradually move up to bigger things. I have found that if you go through the examples in your books on Basic, then type in listings from magazines and books, then you can absorb some of the learning of others by doing what they did and seeing how they did it. After doing this for a while, you may sometimes find that you could have done it better than they did. You can then tell for certain when something was copied from another machine.

If you find that you have neither the time nor the inclination to program, don't worry; there are many programs out there that may fill the bill for just a few dollars. Programming, just like anything else, is not for everyone. There is no reason to feel guilty because you can't or won't program. Just the fact that you have and know how to turn on a computer is sufficient to impress many who don't know that much. The fact that you own a computer shows a spirit that many don't have. I'm sure that each of you know personally many people who are afraid of computers, even if some won't admit it.

I think I've covered this subject enough. Before I close this column, I'd like to include a short program I wrote for my son. When you run it, it asks for a word which, when entered, is erased, scrambled, and redisplayed in its new form. The user is then required to guess the proper word and a count of the tries is kept. What I thought would be of some interest was the way the word was randomly scrambled without duplicating any of the characters in the word. This is done by duplicating the word in a new string, and inserting spaces in the position of the randomly chosen character. Then any time a character position is randomly selected, the presence of a space in that position indicates that it had been previously selected and another random position is selected. This process is repeated until the duplicate string contains all blanks. Then the scrambled word is displayed and you make your guess(es). Of course, as written it requires one person to enter the word and another to guess it. It also requires use of the honor system (I told my son to get under the table while I entered the word). Try it out and see what you think.


```
100 CALL CLEAR
110 RANDOMIZE
120 INPUT "WORD TO SCRAMBLE? ":W$
124 CALL CLEAR
125 IF W$="" THEN 120
126 PRINT "WORKING..."
130 X$=W$
140 C=INT(RND*LEN(W$))+1
150 IF SEG$(X$,C,1)=CHR$(32)THEN 140
160 Z$=Z$&SEG$(W$,C,1)
170 IF (C=1)+(C=LEN(X$))THEN 200
180 X$=SEG$(X$,1,C-1)&CHR$(32)&SEG$(X$,C+1,LEN(W$)-C)
190 GOTO 240
200 IF C=1 THEN 230
210 X$=SEG$(X$,1,LEN(W$)-1)&CHR$(32)
220 GOTO 240
230 X$=CHR$(32)&SEG$(X$,2,LEN(W$)-1)
240 FLAG=0
250 FOR A=1 TO LEN(X$)
260 IF SEG$(X$,A,1)=CHR$(32)THEN 290
270 FLAG=1
280 A=LEN(X$)
290 NEXT A
300 IF FLAG=1 THEN 140
310 CALL CLEAR
320 PRINT Z$: : :
330 G=1
340 INPUT "GUESS WORD: ":G$
350 PRINT : :
360 IF G$=W$ THEN 400
370 G=G+1
380 PRINT "INCORRECT...TRY AGAIN"
385 PRINT : :
390 GOTO 340
400 Z$=""
410 X$=""
420 INPUT "YOU GOT IT RIGHT IN "&STR$(G)&" TRIES! DO ANOTHER? Y/N ":Y$
430 CALL CLEAR
440 IF (Y$="Y")+(Y$="y")THEN 120
450 END
```

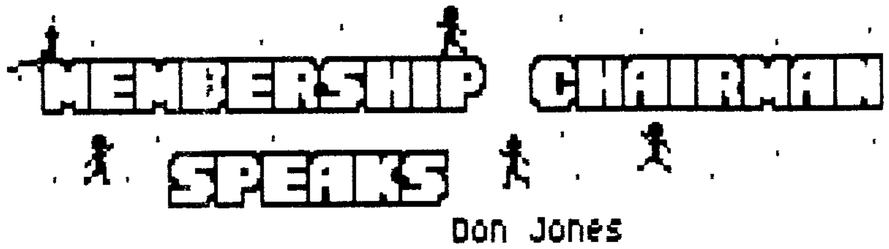
There are a couple of lines near the beginning of the listing which are not in sequence. Don't let it mess you up on the line numbering.

This entire column was written on the Sunday following the meeting. To prove it, here is a routine to print a series of dots on a printer to play connect the dots and get as many squares as possible while keeping your opponent from getting as many. This was suggested by one of our more upstanding members who knows who she is. Please note that this routine is untried so some minor debugging may be necessary. It was written for a Gemini 10X using character 168 for a dot. You could also use a lowercase "o" or even a period instead.

```
100 OPEN #1:"PIO"
110 INPUT "ENTER SIZE OF GRID: MAX=26 ":GS
120 IF GS>26 THEN 110
130 P$=CHR$(168)&CHR$(32)&CHR$(32)
140 FOR R=1 TO GS
150 FOR C=1 TO GS
```

```
150 PRINT #1:P$;
160 NEXT C
170 PRINT #1:CHR$(10) (MAY NEED ANOTHER LINEFEED)
180 NEXT R
190 CLOSE #1
200 END
```

Try these. Have fun and I'll see you soon.



Don Jones

FREE PERIPHERAL EXPANSION BOXES!

Hello to all of you sports fans out there!

Well, here I am again. Did any of you sports fans know that Texincia is directly related to a famous Hollywood movie star? That's right; she's related to Lana Turner. Her real name should be Stomach Turner!

Now, down to business: Yesterday, during our monthly meeting, I received the mail for the month. Most of it consisted of membership renewals, new membership applications, requests for information regarding membership in the group, address changes, and questions related to various problems that some members are having. Within the mail, which I received were also some complaints. Usually, I don't mention them here. Rather, I only take the time to print portions of letters from members who are happy and satisfied with the group and their membership within it. This time, there were a couple of problems whose expression started me to thinking. I then came to the realization that many of our out-of-town members don't understand how our group actually operates at the working (local) level. Please bear with me as I presume to make a brief explanation.

Firstly, and most importantly, we have no paid staff or help. No one in our group receives any renumeration of any kind for any of the services which he/she performs for the group. It is all totally voluntary, and there are no exceptions. Everything which is done for the benefit of the group and its members is done freely without the request or expectation of any pay, whatsoever. Secondly, and also an important point, only a very small minority of the actual members of the group are actually involved as volunteers. Though our membership now exceeds 600, less than one half of one percent of the current membership is actually involved in the many sacrifices which make this club operate as well as it does. You will notice that I used the word, "sacrifice", and I did so intentionally. Here, let's be very clear as to what I mean by "sacrifice." In order to determine what a sacrifice is is very easy; if it doesn't hurt, it isn't a sacrifice. Let's allow that to suffice for the purpose of defining this particular term. Now, let's become even more specific as to the nature of the sacrifices. Here, I see two main categories: a.) time and b.) money. The time category should need no explanation as one's time is one's LIFE, but I feel that the money category may need some clarification. I must admit that I am unaware of any of our volunteers who use their own unreimbursed funds for the running of the group. Rather, the money that is spent is done in an indirect manner. We all know that no machine can or will last forever. Virtually all of

our volunteers selflessly commit their machines (consoles, disk drives, printers, etc.) to activities which support the group and for which they will never be paid, not even for the wear of their machines, even though a considerable amount of that wear is a result of tasks performed for the group.

Are you bored yet, Sports Fans? There is a meaning to all this verbiage. Has anyone asked in his/her own mind, "Why do they do what they do?" The reason is both simple and clear: WE LIKE DOING WHAT WE DO. If we didn't, we wouldn't do anything. We like the group, we like our machines, and we like the friends and associates which the group has allowed us to meet. What we do, to use the words of a former president, Sam Pincus, is, "a labor of love".

I bet that I know what's going through your febrile and active minds, if you've stayed with me for this long. You're probably thinking, "Well, old Chrome Dome Jones is about to hit us with another of his lame raps about volunteering." Well, Sports Fans, you're wrong this time. I'm not going to ask for the obvious, as everyone knows that we always need more active and interested volunteers in our organization. This time, rather, I'm going to ask for a little understanding relative to our situation and respective situations. The reason for this request is the nature of a couple of the complaint letters which I received yesterday. I don't feel that there was any real understanding or sympathy for the problems which we encounter in trying to make the group the effective organization that it is.

One letter was complaining about the fact that its writer had ordered some programs some months back. His check was cashed, but he never received the programs. Let me make something clear. I don't know of a more dedicated or sacrificing person than our present librarian, Big Bob Demeter. This man is the epitome of efficiency and concern. I don't feel that more could possibly be expected of a fellow human being than Big Bob gives. I have been highly impressed with the quality of his work ever since he accepted the job. Still, Big Bob, just like all of us, is human, and because we are human, we are prone to make errors; verily, it is part of our very nature. If you order programs from the group library and you don't receive them within a month, please have the courtesy to simply write us again and inform us of the fact. I can assure you that Big Bob will be happy to make good on any order which you paid for but did not receive. The same is true for disk or programs which are found to be defective. We aren't trying to rob you of your hard earned money; we don't even individually profit from the monies which are received by the group. If you haven't guessed by now, I've said all this because of the implications, in one letter, that we are impersonal and concerned only with the acceptance of funds. Nothing could be further from the truth.

Regarding the problem of error, some of the errors that I spoke of can be found coming from me. To wit, I have recently sent out 200 post cards to non-renewing members. Of that 200, five members wrote to inform me, with copies of their checks or receipts, that they had already renewed their memberships. In such a case, all that I can do is to apologize for the error and give them the proper credit. I do the best that I can. Any members who are forced to go to their banks in order to obtain proof of the fact that they did renew their memberships, with checks, will receive a letter from me which they can use as a voucher in order to receive credit, in the amount of their expenses, towards software in our library or towards their membership dues for next year. Anyone who would prefer to receive a refund check will be sent one on request. We aren't here for the purpose of absconding with anyones money; we will make good on all of our errors.

It should also be noted that some of the problems which you may experience are not due to anything which any of our volunteers did or did not do. Please allow me to give you a few examples: Every month, a certain number of members will not receive their newsletter, even though our volunteer, Grant Busch Schmalgemeier, did send them off. We cannot accept responsibility for problems which reside with our postal service. I was most astonished to find that a few of our members received their January 31st newsletters with

their membership cards, actually, literally, ripped out. Once I was informed of this problem, I mailed out additional cards to those individuals. Still, I don't feel that it is fair to blame us for problems of this sort. Here's another example: A couple of months ago, Mike "Frogman" Maksimik attempted to send me a book which I asked to borrow from him. The book was returned to him, a few days later, opened, ripped in half, and with a note saying, "We don't want anything like this." I feel that enough has been said on this subject. In conclusion, please consider our situation before you become angered when things don't go as well as we would like for them to, relative to our group's operation.

While I think of it, please be sure to support those publications which support us. The three that most readily come to mind are The Genial Traveler, Micropendium Magazine, and Miller's Graphics. There are probably more, and they do deserve our support if for no other reason that they support us and our machine.

By now, most of you know that, this year, I will be the chairman of our annual TI Faire. Relative to this, there will be a few changes, which I hope will be improvements. One important change that I am pushing for is what can be called, "A TI Weekend." Instead of having our usual one day event, this year, I am hoping that we will be having a two day event. The first day, Saturday, November 7, will be held at Triton College, in River Grove, and hosted by the Chicago Area TI-99/4A Users' Group. The second day, Sunday, November 8, will be hosted in Milwaukee, Wisconsin (1 1/2 hours away, by automobile) by the Milwaukee TI Users' Group and the Wisconsin TI Council. Negotiations and plans are being made at this time. I hope that I will be successful in making this proposed idea a reality.

Another of the changes, which I am attempting to institute is the addition of a social gathering, the Friday before the Faire. If it is approved, it will be held at the motel which we will choose for use by our out-of town travelers. Like last year, we will make arrangements at a motel, in the vicinity of the Faire, where we will be having a hospitality room for the vendors. At that same motel, we will also make reservations for any vendors, speakers, or out-of-town-attendees, who choose to have us do this for them. (We are presently in the process of attempting to find the best facility for the lowest cost.) Vendors, speakers, our Faire workers, and members of our executive boards would be allowed in on a "gratis" basis. Any other attendees who would wish to come will be required to pay a nominal cost to cover the cost of their food. The food which will be served will be hors d'oeuvres and of a snack foods nature. Beverages, of all sorts, will be available at an open "pay" bar. It is also my desire to rent the services of the "d.j." so that we can really "git down." In Chicago, we work hard, but we "PARTY HEARTY!"

The reason that I want to do all this is that it is my strong conviction that we TI'ers constitute a community. We have maintained a rather delicate but viable environment for our machine basically by application of the principle of brotherhood. By brotherhood, I mean the principle of cooperation and the sharing of knowledge and expertise. For this reason, I feel that the cultivation of those relationships which will further enhance the health and viability of our TI community is in our best interest. I therefore submit that the act of ignoring this most essential factor would be a most egregious error on our part. My proposed social mixer will cost us very little, but it will have the potential to create a great deal of good will.

I am hoping that a two day event will attract those out-of-town attendees and vendors who otherwise would not bother to make such a long trip for a mere one day event. I feel that there are also some other advantages to a two day event opposed to our traditional one day Faire. I will present some of these ideas in future articles.

Speaking of brotherhood, I am at this time putting out a request for a certain kind of help; I need home owners, with drive-ways, who are willing to allow a camper to park in

their drive-way for the duration of the Faire (one or two days). The only thing that they will be asked to provide is a power cord and electricity. We will be having some campers coming to the Faire. Please, let us open our drive-ways and make them feel at home!

In conclusion, I would like to thank the three members who responded to my request to send in your completed membership applications. It's people like you who make my job easier.

Now that I have finished this article, it's time for me to start in on my ubiquitous paperwork. What I have in front of me will take me the next three evenings, as this day has finally come to an end. What a job. The pay is bad and the hours are the pits. Still, we like it. I guess that we're just plain crazy (like Texincia).

Well, Sports Fans, I guess that that's about it for now. Oh, in case you're wondering about the title of this article, it was added for the sole purpose of getting your attention. How else can I get you to read all this boring but necessary information?

PROCESSED DATA: Sandy Bartels

I've had a few phone calls during the last month about what's been happening at the Executive Meetings, so I'm taking a few minutes to give everyone a rundown on what's happening. First there has been a subcommittee formed to work on the by-laws of this group. This is a very important committee because the by-laws are the rules that govern the operation of the group, and will affect each and every one of the members in this group. Our group has greatly increased in size and the guidelines that were working well for a small group no longer are sufficient to run this massive group effectively. When the by-laws have been revised they will be placed on the BBS and in the group newsletter so at a later date they can be put to a vote by the general membership.

There has been a subcommittee formed to make recommendations to the Executive Committee on the future directions our group must take to maintain our standard of excellence while rapidly growing in size. The Executive Committee will then consider these suggestions and possibly vote to adopt some or all of them. Some the topics discussed thusfar are; non-profit tax status, an answering machine (which is now up and running), access to a non-profit supply company, is our goal to become a National Users Group? (International?), do we review all the new equipment that is now coming out?, group by-laws for our changing corporation, the need for volunteers to support Executive Committee members so the quality of our services to our members will remain at the same high level or become even better.

I want to say a few words on the subject of volunteerism. (Despite what perceptions members may have of President Regan's use of the term.) Our members have the privilege of belonging to the biggest and best all-TI Users Group in the country. (Perhaps, the world.) I feel we have the best group newsletter in print, and our program library is second to none. The Faire that is put on by our group in the fall is one of the best in the world. The general membership meetings are always packed with valuable information. There is always someone willing to offer a helping hand to someone who needs help. Your Executive Committee, which now contains 20 to 25 members, put in many long hours of work to keep our group at its present level of excellence. The members of the Executive Committee are all volunteers and do not get paid for their labors. Most of them put in hours and hours of work in one months time, and ask for no compensation, but one person can only do so much and then they start to get what is known as "burn-out". (They overload themselves with more work than they can handle alone, and then they just quit, because they are overwhelmed.) If we were to lose any of our key members, our group could really be hurt. Think what it would mean if there was no library or newsletter. I'm trying to get some volunteers to help take care of some of the small tasks so that

these key members' jobs will become a little easier. They have jobs and families just like you. If you could spare some time during the month, or on the day of the meeting, to do a few minor chores to help take some of the pressure off some of the Committee members let me know. Divide and conquer applies to work too! You may leave me a message on our new group hot-line answering machine or see me, or any Committee member after the membership meeting, or phone me at (312) 859-3850. Your help is necessary, and will be greatly appreciated. REMEMBER THIS IS YOUR CLUB, AND IF YOU WANT IT TO REMAIN THE BEST THERE IS, WE DESPERATELY NEED YOU TO HELP NOW. Yes, there is no mistaking it, you have just read a plea for assistance from your president.

TRADING TIMES

Group member John Carlberg has a complete system for sale. It includes console, PEB, 2 drives, speech, software and cartridges, two printers and more. He will part with some items seperately or sell all for $650. Call John in Westmont, Il at 312-963-2179 evenings.

Handyman special; Jody Fisher has a 2 yr old tan console which does not work (title screen will not appear when turned on). If anyone is interested in it for spare parts, Jody is asking $15 for it. Also available is a brand new RF modulator for $5. You can reach Jody at RD#4 Box 92, Middlesburg, Pa 17842.

Also from Pennsylvania Kevin Crawford is selling his second system which consists of a black and silver console, PEB, Disk Controller, 1 drive, 32K, RS232, a widget, and a supercart, plus tons of software for sale He is asking $475 for the package. You can call him at 814-642-2278 after 5:30 PM or write him at RD2, Port Allegany, Pa. 16743.

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TI WRITER GRAPHICS

PRODUCING ART
WITH THE WORD PROCESSOR
PART ONE

BY ANNE DHEIN

How many times have you wished you could take a design you've drawn and add it to your text using the TI-Writer? You can, if you have a printer that is capable of producing dot graphics. How well you can do it depends on the combining of two factors that are not always well understood - the printer controls for your particular printer and the transliterate command in TI Writer.

The transliterate command has to do with the ASCII character codes listed on page 145 of your TI Writer manual. Any character codes can be changed, or "transliterated" to represent any other characters. This is a powerful feature of the TI Writer but it is almost ignored in the manual - perhaps because the various brands of printers interact differently with the transliterate command.

The information here comes from experimenting with the TI Epson printer. It should work without much change for Epson compatible printers such as the Gemini 10X. Although the codes may be somewhat different for other printers, the principle is the same.

Printer graphics consist of one or more columns of dots. For the TI printer there is a total of 480 such columns across a line. Each column is 8 positions high and a dot can appear in any one of the 8 positions. Each position has a number associated with it:

128
64
32
8
4
2
1

If the value of each dot were added together you would come up with the sum of 255. This is the highest number you will use and it would mean that every single position was occupied with a dot. Suppose dots 128, 16 and 2 were to be used. The sum would be 146. Any combination of dots you can think of will add up to a unique number between 1 and 255. In a column where no dots were used, a zero would be the value.

To start with, let's draw a single character that matches the text characters in size. A normal printer character is 6 columns wide including the right hand column, which is left vacant so that characters will not run together. Except for lower case decenders, the bottom positions are not used either. Designing standard size characters will allow you to use them quite freely within your text, even with such commands as adjust and center. The easiest way to design something is by using graph paper:

128						
64			*			
32			*			
16	*		*		*	
8	*		*		*	
4		*	*	*		
2			*			
1						

The sum of the first column is 24, and for the second, 4. The used positions in the third column all add up to 126, and the next two columns are 4 and 24. The last column is 0. To send the data the printer must be switched from text mode to graphics. The normal density graphics mode is entered with the ASCII codes 27 and 75. The 75 must be followed by

two numbers which tell the printer how many columns of graphics to print on a line. Unless you are going to send more than 255 columns of data values (which is unlikely), the first number must be the EXACT number of columns you want to print and the second number zero; for our example, 6. The graphic data immediately follows the second number. Our string of numbers now looks like this: 27,75,6,0,24,4,126,4,24,0.

The transliterate code is now typed into the editor part of the TI Writer. We will take any keyboard symbol, such as the exclamation point which has an ASCII value of 33, and change it to represent our graphics. The transliteration code is a period followed by TL so the completed string looks like this:

> .TL 33:27,75,6,0,24,4,126,4,24,0 <

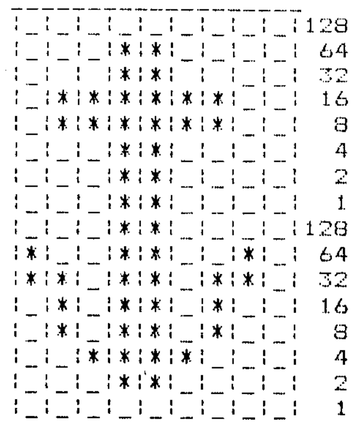
It should be on a line by itself and no carriage return should follow it. Once we have this code at the head of a document we can use the special character within the document any time by simply typing in an exclamation point. When the document is run through the formatter, the anchor will appear on the printed page wherever the exclamation point has been placed: ⚓ ⚓ ⚓

The number of small characters you can create and scatter freely throughout your document is almost unlimited! You can use just a few ASCII values you don't need in the text and use them over and over. Or, you can design a whole set of characters such as a special alphabet, each with its own unique value.

Now let's try something just a little more difficult. This next design extends 9 columns instead of 6. If the transliterate code contains data for more than 6 columns of graphics, the device name for your printer will need to have a .CR after it in order to suspend the carriage return function. Since .LF is the normal default on the printer, you will need to add line feeds to each line you want printed. This means all text, graphics and spaces, but not the transliterate codes. There are several ways to add line feed characters to your text. Probably the easiest is to run the document through the formatter, using DSK1.FILENAME as the print device. Or, using special character mode; type control U, shift J, control U. A transliterate code could also be used. You will also need to remove all carriage return symbols from your text; you can do this with the Replace String command.

Another reason why working with larger images seems more complicated is because when a graphic design extends to other lines the spacing is wrong for it. Standard spacing is 6 lines per inch, that is, 1/6 inch per line. But spacing can be set for as little as 1/72 of an inch to as much as 1 13/72 inches. The printer control codes for this are 27,65,n; where n is a number between 1 and 85. 1/6 is equavalent to 12/72 so standard line spacing would be represented by 27,65,12. The spacing we want for graphics is 8/72, or 27,65,8. I chose the = (ASCII 61) and > (ASCII 62) signs to transliterate: .TL 61:27,65,8 will give us the spacing we need for graphics and .TL 62:27,65,12 will change it back to standard spacing for text.

Now we'll design the character:



This time two transliteration codes are needed - one for each line of columns. From the left, the top 9 columns will have these data values: 0,24,24,127,127,24,24,0,0. If a "1" is used for the first character, the transliteration code will look like this: .TL 49:27,75,9,0,0,24,24,127,127,24,24,0,0. The ASCII value for one is 49; 27 and 75 are the codes needed to switch to graphics mode; the 9 and 0 are the units which tell the printer how many columns of graphics will follow. For the second transliteration we'll use "2", which has an ASCII value of 50; .TL 50:27,75,9,0,96,56,4,254,254,4,56,96,0.

Now, using the TI Writer editor, prepare a transliteration file with the codes. Save it under the file name TEST. The file should contain these lines:

```
.TL 61:27,65,8
.TL 62:27,65,12
.TL 33:10
.TL 49:27,75,9,0,0,24,24,127,127,24,24,0,0
.TL 50:27,75,9,0,96,56,4,254,254,4,56,96,0
=
1 ANCHORS!
2 AWAY!
>12!
.TL 61:61
.TL 62:62
.TL 49:49
.TL 50:50
.TL 33:33
1 2 !
```

Print the file through the Formatter using the device name you normally use, except delete the .LF and add CR. If it doesn't work, you may need to experiment to find what's right for you. Notice that the transliteration codes do not appear on the printed page at all, nor have the lines they were occupying been saved. The "1" shows up as the top part of the anchor and the "2" represents the bottom part. The equal sign narrowed the line space (look how close the two words are) but the greater than sign restored standard spacing.

As you make bigger and fancier designs, you will find that sometimes the transliterate commands just don't seem to work the way you think they should. Then you'll have to spend some time debugging. Here are some things to keep in mind:

Does every, single transliterate code start with a period? And is there a space between the .TL and the ASCII value to be transliterated? This will be the only space in the string. Make sure there are no extra spaces and no skipped commas. Keep each .TL on a line to itself. And, contrary to what you may have heard, DO NOT put carriage returns behind any .TL codes that switch the printer to graphics mode. Don't use carriage returns at all when using .CR as part of your printer device name.

Do you have the right number of data values specified for each graphics code? For the code .TL 49:27, 75,N1,N2,1,2,3,4,5,6 the value of N1 should be 6 because there are 6 data units following. If N1 is any number up to 255 then N2 is a 0. If N1 is more than 255 it is represented by its actual number minus 255. For example, 258 -255 =3: N1 would be 3 and N2 would be 1.

Once you have transliterated your ASCII values properly, are you actually using them? .TL 33:10 changes the exclamation point to a line feed, but until you actually insert the ! into the document, nothing happens.

Do one or two of your characters show up as blanks? TI Writer reserves the use of the ampersand (shift 7), at sign (shift 2) and circumflex (shift 6) for its own purposes. It is best to stay away from these characters.

Are you printing your document through the formatter and are you using .CR at the end of your device name? If all else fails, check your values once more. Sometimes the data values 8, 12 and 13 will cause printer glitches. You may have to redesign your graphics slightly to get rid of the offending values.

Again, the suggestions in this article are just that - ideas for you to use in your own experimentation. Many printers also have double density graphics and some even go beyond that to very high resolution graphics. You may also want to consider using condensed, enlarged and enhanced print, and whatever other capabilities your printer may have. Letterheads, logos, monograms, emblems, maps, borders - there doesn't seem to be anything that the TI Writer can't do. Taking everything into consideration, there is still a lot to learn about using the transliterate codes - especially the ones concerning graphics. If you have some ideas of your own, or if you have gotten good results with another kind of printer, share it with us! Thanks go to Barb Berg of Trio+ Software for the use of her Flower Character Set (from TI Artist Companion) which is used at the head of this article.

Following is the transliteration file for our store logo, shown below. I designed it with TI Artist(tm) from Inscebot. You can use it as a model for your own graphic experiments and in a future newsletter I'll give those of you who have the TI Artist program a gigantic shortcut to TI Writer graphics. Until then, happy designing!

DHEIN'S
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Please note: A special character was put onto the front of each line so that the transliterate codes would print through the formatter. Also; because the file is being printed through the formatter the circumflex does not show up on the printed copy. Each indented line (98765...etc.) is actually preceded by 12 circumflexes. This moves the graphics design over to the position it is wanted. The telephone number has 39 in front plus an enlarge print command. The margin command (.LM) doesn't seem to work on graphics. Also note that in order to use the ampersand (one of the TI reserved words) a double had to be used, which shows on the printed copy as a single ampersand. Line feed characters which are on the end of each line except those that hold transliterate codes do not show on the printed copy either.

```
.TL 126:10
.TL 61:27,65,8
.TL 62:27,65,12
=
.TL 57:27,75,8,0,0,0,0,0,0,31,31,31
.TL 56:27,75,8,0,31,31,28,28,30,31,15,7
.TL 55:27,75,8,0,0,31,31,31,31,31,31,1
.TL 54:27,75,8,0,31,31,31,31,0,31,31,31
.TL 53:27,75,8,0,31,31,31,29,29,29,29,29
.TL 52:27,75,8,0,0,31,31,31,31,31,31,0
.TL 51:27,75,8,0,31,31,31,31,31,31,15,7
.TL 50:27,75,8,0,31,31,31,0,0,48,57,59
.TL 49:27,75,8,0,63,63,0,0,7,15,31,31
.TL 48:27,75,8,0,31,31,29,29,29,28,28,0
.TL 47:27,75,8,0,0,0,0,0,0,0,0,0
.TL 46:27,75,8,0,0,0,0,0,0,0,0,0
.TL 45:27,75,8,0,0,0,0,0,0,0,0,0
.TL 44:27,75,8,0,0,0,0,0,0,0,0,0
.TL 43:27,75,8,0,0,0,0,0,0,0,0,0
.TL 42:27,75,8,0,0,0,0,0,0,0,0,0
.TL 41:27,75,8,0,0,0,0,0,0,0,0,0
.TL 40:27,75,8,0,0,0,0,0,0,0,0,0
.TL 39:27,75,8,0,0,0,0,0,0,0,0,0
.TL 38:27,75,8,0,0,0,0,0,0,0,0,0
.TL 37:27,75,8,0,0,0,0,0,0,0,0,0
                9876543210/.-,+*)('&%~
.TL 57:27,75,8,0,0,0,0,0,0,252,252,252
.TL 56:27,75,8,0,252,252,28,28,60,252,248,240
.TL 55:27,75,8,0,0,252,252,252,252,252,252,192
.TL 54:27,75,8,0,252,252,252,252,0,252,252,252
.TL 53:27,75,8,0,252,252,252,220,220,220,220,220
.TL 52:27,75,8,0,0,252,252,252,252,252,252,0
.TL 51:27,75,8,0,252,252,252,252,252,252,240,248
.TL 50:27,75,8,0,252,252,252,0,0,128,128,128
.TL 49:27,75,8,0,0,0,0,0,28,156,220,220
.TL 48:27,75,8,0,221,253,255,255,255,255,119,7
.TL 47:27,75,8,0,15,15,15,15,15,31,30,30
.TL 46:27,75,8,0,30,30,30,60,60,60,60,60
```

```
.TL 45:27,75,8,0,60,60,60,124,120,120,120,120
.TL 44:27,75,8,0,120,120,120,120,120,120,120,120
.TL 43:27,75,8,0,120,120,120,120,120,120,120,120
.TL 42:27,75,8,0,120,120,120,120,120,124,60,60
.TL 41:27,75,8,0,60,60,60,60,60,60,30,30
.TL 40:27,75,8,0,30,30,30,31,15,15,15,15
.TL 39:27,75,8,0,15,7,7,7,3,3,3,1
.TL 38:27,75,8,0,1,0,0,0,0,0,0,0
.TL 37:27,75,8,0,0,0,0,0,0,0,0,0
          9876543210/.-,+*)('&%~
.TL 57:27,75,8,0,0,0,0,0,0,67,76,112
.TL 56:27,75,8,0,0,0,0,0,0,127,6,127
.TL 55:27,75,8,0,0,0,0,0,0,63,72,63
.TL 54:27,75,8,0,0,17,31,17,0,31,20,11
.TL 53:27,75,8,0,0,31,1,1,0,17,31,17
.TL 52:27,75,8,0,0,31,14,31,0,31,21,17
.TL 51:27,75,8,0,0,0,0,0,0,127,8,127
.TL 50:27,75,8,0,0,31,6,31,0,28,7,28
.TL 49:27,75,8,0,3,7,31,63,127,127,252,248
.TL 48:27,75,8,0,240,240,224,224,192,192,128,128
.TL 47:27,75,8,0,128,128,0,0,0,0,0,96
.TL 46:27,75,8,0,64,64,71,120,65,71,68,68
.TL 45:27,75,8,0,7,0,1,6,0,0,1,3
.TL 44:27,75,8,0,4,0,1,34,68,67,64,64
.TL 43:27,75,8,0,96,62,1,0,0,3,28,96
.TL 42:27,75,8,0,3,4,4,3,24,38,65,34
.TL 41:27,75,8,0,28,0,0,1,6,0,0,1
.TL 40:27,75,8,0,7,0,0,0,3,4,3,128
.TL 39:27,75,8,0,128,128,128,192,192,224,224,240
.TL 38:27,75,8,0,240,248,252,127,127,63,31,15
.TL 37:27,75,8,0,7,0,0,0,0,0,0,0
          9876543210/.-,+*)('&%
.TL 49.49
.TL 50.50
.TL 51.51
.TL 54.54
.TL 56.56
.TL 57.57
```

[319] 236 3861

```
.TL 57:27,75,8,0,0,0,0,31,1,31,0,3
.TL 56:27,75,8,0,5,3,0,4,7,4,0,7
.TL 55:27,75,8,0,5,4,0,7,5,2,0,7
.TL 54:27,75,8,0,0,0,0,7,4,7,0,7
.TL 53:27,75,8,0,4,7,0,0,0,16,31,16
.TL 52:27,75,8,0,0,15,18,15,0,0,0,28
.TL 51:27,75,8,0,20,19,0,15,16,15,0,16
.TL 50:27,75,8,0,19,28,0,15,16,15,0,18
.TL 49:27,75,8,0,210,237,240,248,252,252,126,62
.TL 48:27,75,8,0,31,31,15,15,7,7,3,3
.TL 47:27,75,8,0,3,3,1,1,1,1,48,16
.TL 46:27,75,8,0,16,224,0,32,192,0,0,192
.TL 45:27,75,8,0,32,96,128,64,47,194,15,192
.TL 44:27,75,8,0,39,42,71,192,175,42,69,128
.TL 43:27,75,8,0,15,8,231,32,79,131,15,192
.TL 42:27,75,8,0,39,42,199,32,47,202,133,64
.TL 41:27,75,8,0,47,42,104,160,64,32,224,0
.TL 40:27,75,8,0,192,32,32,33,193,161,33,67
.TL 39:27,75,8,0,131,3,3,7,7,15,15,31
.TL 38:27,75,8,0,31,62,126,252,252,248,240,224
.TL 37:27,75,8,0,192,0,0,0,0,0,0,0
          9876543210/.-,+*)('&%~
.TL 57:27,75,8,0,0,0,0,192,128,192,0,192
.TL 56:27,75,8,0,0,192,0,0,192,0,0,192
.TL 55:27,75,8,0,64,64,0,192,0,192,0,192
```



```
.TL 54:27,75,8,0,64,64,0,192,64,192,0,192
.TL 53:27,75,8,0,64,192,0,0,0,64,192,64
.TL 52:27,75,8,0,0,192,0,192,0,0,0,64
.TL 51:27,75,8,0,64,128,0,128,64,128,0,192
.TL 50:27,75,8,0,0,0,0,128,64,128,0,64
.TL 49:27,75,8,0,64,128,0,0,0,0,0,0
.TL 48:27,75,8,0,0,0,128,128,128,192,192,192
.TL 47:27,75,8,0,224,224,224,224,224,240,240,240
.TL 46:27,75,8,0,240,240,240,120,120,120,120,120
.TL 45:27,75,8,0,120,120,120,124,188,60,188,60
.TL 44:27,75,8,0,188,60,188,60,188,60,188,60
.TL 43:27,75,8,0,188,188,60,60,188,60,188,60
.TL 42:27,75,8,0,188,60,188,60,188,60,184,56
.TL 41:27,75,8,0,184,248,248,120,120,120,240,240
.TL 40:27,75,8,0,240,240,240,240,224,224,224,224
.TL 39:27,75,8,0,224,192,192,192,128,128,128,0
.TL 38:27,75,8,0,0,0,0,0,0,0,0,0
.TL 37:27,75,8,0,0,0,0,0,0,0,0,0
          9876543210/.-,+*)('&%~
.TL 57:57
.TL 56:56
.TL 55:55
.TL 54:54
.TL 53:53
.TL 52:52
.TL 51:51
.TL 50:50
.TL 49:49
.TL 48:48
.TL 47:47
.TL 46:46
.TL 45:45
.TL 44:44
.TL 43:43
.TL 42:42
.TL 41:41
.TL 40:40
.TL 39:39
.TL 38:38
.TL 37:37
.TL 126:126
.TL 61:61
>
.TL 62:62
```

SOFTWARE REVIEW

Jack Topham

I will start with an update to THE PRINTERS APPRENTICE, Version 2.00. Both the SCHEDULER and the FORMATTER have been re-writen as has the manual to be far easier to learn and to use. McCANN Software is to be congratulated on their responsiveness to user input. TPA is available from HUNTER ELECTRONICS. $3 and a letter to McCANN will get you the updates.

The examples ran first time following the simplified instructions. If precise printing of Text and Graphics to a schedule is your need, you need TPA!. A real bonus is a mini word processor called JOTTER built into TPA. No more back and forth to TI WRITER. Additional fine detail fonts are available as well from HUNTER.

JIM PETERSON is probably the all time XBASIC expert in the 99 world. He has published a TIPS column for years and endeavored to sell his fantastic programs. Poor response and theft by copy has caused to drop the TIPs and just sell his programs. John Behnke's VDPUTIL2 has been polished some by JIM and he sent JOHN a copy of his TIPS #4 and a copy of his NUTS & BOLTS #2 hoping that we would review them.
So here goes. NUTS & BOLTS #2 is a collection of 109 XB files that can be merged into your program and CALLED as required to do all kinds of fantastic things. TI used to get $20 for 3 or 4 utilities. Here are 109 for $20. N&B #1 is another 100+ of equally fantastic XB files to use in your XB programs. He has them all numbered so that as you merge them into your XB program they all have unique line numbers. Yes you could use all 200+ in one program if you chose to.

TIPS #1 thru #5 are available at $6 each. #4 contains 48 programs! One is BXB which is the updated Behnke VDPUTIL2. This allows a BASIC program to RUN in XB. DECOMPACTOR turns multi line files into single statement lines. HYPHENATOR will right justify TIW files that have hyphenated lines. MENULOADER is one the best autoload menus around. KEY SEARCH will locate up to 10 key words in a TIW file. WORDCOUNT will tell you how many words are in a DV80 TIW file. And on and on it goes.

I sent Jim $15 for his Disk Collection called PROGRAMMING TUTOR. It contains two excellent Tutors. One on Color Graphics, and one on Music. HANDY DANDY #1, 2, and 3 are another 63 short routines that can be merged into your XB program. One provides 15 unique screen wipes. Almost unbelievable. This wealth of XB programming TIPS and routines is available from Jim at: TIGERCUB SOFTWARE
156 COLLINGWOOD AVE
COLUMBUS, OH 43213
Send a refundable dollar for his catalog.

Myarc has released vs 2.12 for their XBII. They now believe that all the bugs are dead. I am going thru all my better XB programs to see if they are compatable. Most are, and execute 3 to 5 times faster. I am still waiting to see if any programs are written for XBII with its 128K memory

feature. I am also waiting to see some programs that use the power of XXB or STAR. What happened to the art of programming? These expanded XB products are very powerful and are deserving of some good use.

THE BASIC ASSEMBLER

Steve Peacock

USING SPRITES

This month is dedicated to SPRITES and how to use them in TI Assembly. In order to use sprites to their fullest, information must be written to three tables and one register. These tables are SPRITE ATTRIBUTE TABLE, SPRITE DESCRIPTOR TABLE, and SPRITE MOTION TABLE. The register is number one, of the write only registers. There are eight of these registers that can only be written to. Any character from ASCII 32 to ASCII 159 can be used for a sprite, in TI Assembly. In order to have a sprite move it MUST be within the range of character number 128 to 159 (dec) or >80 to >9F (hex). Sprite motion can be done with up to 32 different characters. These are numbered 0 to 31. It is a good habit to start using number 0 and work up. This will allow you to disable the higher numbers, and your program will run faster. The SPRITE ATTRIBUTE TABLE holds the Dot Row, Dot Column, Character Number, and Color Code (in that order). The SPRITE DESCRIPTOR TABLE holds the Definition of the sprite. If Magnify 3 or 4 is used, the definition is listed Top Left, Bottom Left, Top Right and Bottom Right (in that order). The SPRITE MOTION table holds the Verticle Motion and Horizontal Motion and two bytes of padding (in that order).

	SPRITE ATTRIBUTE	SPRITE MOTION	SPRITE DESCRIPTOR	
SPRITE #	ADDRESS	ADDRESS	CHAR # (D H)	ADDRESS
0	>0300 >0303	>0780 >0783	128 >80	>0400 >0407
1	>0304 >0307	>0784 >0787	129 >81	>0408 >040F
2	>0308 >030B	>0788 >078B	130 >82	>0410 >0417
3	>030C >030F	>078C >078F	131 >83	>0418 >041F
4	>0310 >0313	>0790 >0793	132 >84	>0420 >0427
5	>0314 >0317	>0794 >0797	133 >85	>0428 >042F
6	>0318 >031B	>0798 >079B	134 >86	>0430 >0437
7	>031C >031F	>079C >079F	135 >87	>0438 >043F
8	>0320 >0323	>07A0 >07A3	136 >88	>0440 >0447
9	>0324 >0327	>07A4 >07A7	137 >89	>0448 >044F
10	>0328 >032B	>07A8 >07AB	138 >8A	>0450 >0457
11	>032C >032F	>07AC >07AF	139 >8B	>0458 >045F
12	>0330 >0333	>07B0 >07B3	140 >8C	>0460 >0467
13	>0334 >0337	>07B4 >07B7	141 >8D	>0468 >046F
14	>0338 >033B	>07B8 >07BB	142 >8E	>0470 >0477
15	>033C >033F	>07BC >07BF	143 >8F	>0478 >047F
16	>0340 >0343	>07C0 >07C3	144 >90	>0480 >0487
17	>0344 >0347	>07C4 >07C7	145 >91	>0488 >048F

18	>0348	>034B	>07C8	>07CB	146	>92	>0490 >0497
19	>034C	>034F	>07CC	>07CF	147	>93	>0498 >049F
20	>0350	>0353	>07D0	>07D3	148	>94	>04A0 >04A7
21	>0354	>0357	>07D4	>07D7	149	>95	>04A8 >04AF
22	>0358	>035B	>07D8	>07DB	150	>96	>04B0 >04B7
23	>035C	>035F	>07DC	>07DF	151	>97	>04B8 >04BF
24	>0360	>0363	>07E0	>07E3	152	>98	>04C0 >04C7
25	>0364	>0367	>07E4	>07E7	153	>99	>04C8 >04CF
26	>0368	>036B	>07E8	>07EB	154	>9A	>04D0 >04D7
27	>036C	>036F	>07EC	>07EF	155	>9B	>04D8 >04DF
28	>0370	>0373	>07F0	>07F3	156	>9C	>04E0 >04E7
29	>0374	>0377	>07F4	>07F7	157	>9D	>04E8 >04EF
30	>0378	>037B	>07F8	>07FB	158	>9E	>04F0 >04F7
31	>037C	>037F	>07FC	>07FF	159	>9F	>04F8 >04FF

You can use any of these characters as any sprite number. Sprite number three does not have to be character number >83.

When using sprites you need to indicate how many are to be moving. The number of moving sprites is stored at address >837A. If you want nine sprites to move (#0 to #8) put a nine at this address. This is done with the following command:

```
    LI   R5,>0900
    MOVB R5,@>837A
```

Sprites #9 to #31 can still be on the screen, but can not move. It may be a good idea to turn these off. To do this write >D0 in the sprite attribute list of the first unused sprite:

```
    DATA >6080,>8304,>D000
```

This deletes all sprites above the character #>83. When using the sprite motion table, the VDP INTERUPTS must be enabled and then disabled. ALWAYS disable the VDP interupts before accessing the VDP RAM. To do this, use the following commands:

```
    LIMI 2
    LIMI 0
```

Put this in a frequently used loop. This will also let you use the FCTN/= to return to the main title screen.

In setting magnification, VWTR number one is used. To set magnification, ONE >E0 is written to the register, TWO >E1, THREE >E2, FOUR >E3.

For example:

```
    LI   R0,>01E2
    BLWP @VWTR
```

will set magnification THREE. Magnification ONE is default and does not need to be set, unless you have set 2, 3, or 4, and you want to return to 1.

In TI Assembly the speed of a sprite is controlled by the numbers >00, >01 to >7F and >FF to >81. In decimal this is 0, 1 to 127 and -1 to -127.

DEC	HEX		DEC	HEX
0	>00		0	>00
1	>01	SLOW	-1	>FF
2	>02		-2	>FE
126	>7E		-126	>82
127	>7F	FAST	-127	>81

The left most dot column, on the screen is numbered >00. The next is >01 up to >FF, being the right most column. The dot rows are a little different. The top row is numbered >FF the second is >00 with the bottom row (that is visible)

being >BE.

ROW	
>FF	
>00	COLUMN
>01	>00,>01,>02,>03....>FD,>FE,>FF
>02	
>03	The Center Point of the Screen is ROW >5F COLUMN >7F
>BD	
>BE	

Next month - How to check for coincidence.

```
###############################################################################
100 REM PROGRAM BASB-->Basic Assembler #5 Basic Version
110 REM USING SPRITES
120 REM (C)1985 S. PEACOCK
130 REM YOU MAY WANT A 'CALL CLEAR' HERE
140 CALL MAGNIFY(2)
150 READ SD1$
160 CALL CHAR(128,SD1$)
170 READ SD2$
180 CALL CHAR(129,SD2$)
190 CALL SPRITE(#1,128,16,95,127,0,0)
200 CALL SPRITE(#2,129,7,1,1,5,-5)
210 DATA AA55AA55AA55AA55
220 DATA FF818181818181FF
230 GOTO 230
240 END
```

```
###############################################################################
*******************************************************************************
*
*PROGRAM BASA-->Basic Assembler #5 Assembly Version
*USING SPRITES
*(C)1985 S. PEACOCK
*
*******************************************************************************
       REF  VWTR,VMBW     *VIDEO WRITE TO REG AND VIDEO MULTIPLE BYTE WRITE
       DEF  START         *DEFINE THE START OF PROGRAM (CAN BE ANY NAME)
START  LI   R5,>0200      *WILL BE USING ONLY TWO SPRITES #0 AND #1
       MOVB R5,@>837A     *STOPS MOTION OF SPRITES #2 THROUGH #31
***************************(NO EXTENDED BASIC PARALLEL)
       LI   R0,>01E1      *>01 WTR #1, E1 SETS MAGNIFICATION 2
       BLWP @VWTR         *WRITE THIS INFORMATION
       LI   R0,>0400      *ADDRESS FOR CHARACTER #>80 (128)
       LI   R1,SD1        *THE DEFINITION FOR THE CHARACTER
       LI   R2,8          *EIGHT BYTES TO WRITE
       BLWP @VMBW         *WRITES THE DATA LABELED DEF1
       LI   R0,>0408      *ADDRESS FOR CHARACTER #>81 (129)
       LI   R1,SD2        *THE DEFINITION FOR THE CHARACTER
       LI   R2,8          *EIGHT BYTES TO WRITE
       BLWP @VMBW         *WRITES THE DATA LABELED DEF2
       LI   R0,>0300      *ADDRESS OF SPRITE ATTRIBUTE FOR SPRITE #0
       LI   R1,SA1        *DATA TO WRITE DOT ROW, DOT COL, CHAR #, ] COLOR
       LI   R2,4          *FOUR BYTES TO WRITE
       BLWP @VMBW
       LI   R0,>0304      *ADDRESS OF SPRITE ATTRIBUTE FOR SPRITE #1
```

```
       LI   R1,SA2        *DATA TO WRITE DOT ROW, DOT COL, CHAR #, ] COLOR
       LI   R2,5          *THE 5th BYTE (>D0) TURNS OFF ALL SPRITES
************************NUMBERED ABOVE >81 (NO EXTENDED BASIC PARALLEL)
       BLWP @VMBW
       LI   R0,>0780      *ADDRESS FOR SPRITE MOTION FOR SPRITE #0
       LI   R1,SM1        *DATA TO WRITE VERTICAL MOTION, HORIZONTAL MOTION
       LI   R2,4          *FOUR BYTES TO WRITE
       BLWP @VMBW
       LI   R0,>0784      *ADDRESS FOR SPRITE MOTION FOR SPRITE #1
       LI   R1,SM2        *DATA TO WRITE VERTICAL MOTION, HORIZONTAL MOTION
       LI   R2,4          *FOUR BYTES TO WRITE
       BLWP @VMBW
LO     LIMI 2             *INABLE VDP INTERUPTS
       LIMI 0             *DISABLE VDP INTERUPTS
       JMP  LO            *UNCONDITIONAL JUMP BACK TO LO
SD1    DATA >AA55,>AA55,>AA55,>AA55  *DATA FOR DEFINITION OF SPRITE #0
SD2    DATA >FF81,>8181,>8181,>81FF  *DATA FOR DEFINITION OF SPRITE #1
SA1    DATA >5F7F,>800F              *DATA FOR ATTRIBUTES OF SPRITE #0
SA2    DATA >0101,>8106,>D000        *DATA FOR ATTRIBUTES OF SPRITE #1
SM1    DATA >0000,>0000  *DATA FOR MOTION OF SPRITE #0 (TWO BYTES PADDING)
SM2    DATA >05FB,>0000  *DATA FOR MOTION OF SPRITE #1 (TWO BYTES PADDING)
       END
```

FROM OTHER ORPHANAGES

Jack Topham

The SUNCOAST BEEPER reports on a SMART PROGRAMMER note that fixes the DF/128 file problem with FAST TERM using XMODEM. Barry Traver says just PROTECT the file and it will transfer. A better solution is to use MASS TRANS 4.1(JWT).

From the MID-SOUTH 99er UG comes a tip for FUNLWRITER users. After returning from certain sections...when EDITOR is selected, the word wrap is no longer working. This is because you are in E/A EDITOR not TIW. Go back to TIW EDITOR and you will have word wrap.

The PENN OHIO UG has a TIP for MAX-RLE (or RLE3). To print hard copy, enter P. To save to disk, press S, and for a CAT of the disk, press D. You can change foreground color with SHIFT 1-9, and A-F. Change background color with 1-9, and a-f. For a new picture press ENTER.

A new book by the author of ORPHAN CHRONICLES called ORPHAN's SURVIVAL HANDBOOK is out. $16.95. Call (301) 369-1339 to order.

TI BUG SOUTH notes that when you use the TIW FORMATTER that 5 lines are reserved at the top of the page and 3 at the bottom for a header and/or a footer. The modified file that eliminated the form feed causes text to start on line 4 on page 1, and line 5 on subsequent pages. This can be corrected by replacing the asterisk in the first HE line with a LINE FEED CHAR. Type in CTRL U, SHIFT J, CTRL U. Thanx TI BUG SOUTH.

The KANKAKEE TI UG has a sweet TIP for TI ARTIST users. You can FLIP and MIRROR but the DOCS aren't that clear. Select MOVE W/O COLOR or COPY W/O

COLOR from ENHANCEMENT. Position Pen at one of the corners of an instance and surround the PIC with the box. Press the FIRE button to pick up the PIC. Move to new location. When you drop the PIC it will be FLIPped or MIRRORed depending on which corner you started at. Try it!

TI has a new address for repairs.
Daymon Fikes, TEXAS INSTRUMENTS
2305 N. UNIVERSITY
LUBBOCK, TEXAS 79415
(806) 741-2321

The MID ILLINOIS MICRO/99 Newsletter has a couple of handy TIPS. To HONK CALL SOUND(150,1390,2). To BEEP CALL SOUND(70,218,1).
The CHAR code for the COPYRIGHT sign is "003E415D515D413E" , For a SLASHed ZERO, try "0038444c54644438".

For those of you that still have not subscribed to MICROPENDIUM, please note: C. REGINA will be a regular contributor with a column on XB programming. Dont know what else it will take you to get on with it.

The HOOSIER UG came up with a number of TIPS which include: If you type OLD CS1 and meant SAVE CS1 for example, Press FCTN and E. This will get you out of the tape routine. Save time and type RUN CS1. Follow the instructions and the file will load and then run automatically.

THE PASCAL ADVENTAGE

MIKE MAKSIMIK

Last month was just a basic introduction to what the p-system can do for you. This month, I will begin a series of tutorials on the language of Pascal and the p-system.

Pascal is a language much like BASIC in its simple-to-use English commands and statements. Yet it is much more structured and elegant. There are no line numbers. Most of the statements in Pascal are procedure and function calls, while there are provisions for looping, concurrent processing, assembly language, and so on. To begin, let's look at a small and simple Pascal program and it's BASIC counterpart:

```
Program hello;
      begin
      writeln('HELLO THERE!');
      end.

10 PRINT "HELLO THERE!"
20 END
```

As you can see, the Pascal program has English words. 'Writeln' is short for 'write text then a line feed' or 'write line'. The syntax of Pascal provides that every procedure or function be followed by a semicolon. The 'begin' statement is merely the delimiter of the beginning of a program, and the program is declared by name for the first line of the program; 'hello'.
Here is a more complex program, one I developed myself, that displays a list of numbers on the screen and sorts them as you watch, using the shell sort method.

If you are wondering what's going on, the comments are surrounded, for example, '(* comment *)

```
Program ShellSort(Input,Output);  (*declare program and use the standard screen
                                    and keyboard files*)
uses Random, {$u #4:Commandio.code} commandio;  (*Take several support
                                                  procedures and functions
                                                  from the library file,
                                                  Commandio.code on unit #4,
                                                  in this case, it is drive
                                                  number 1 *)
var a:array[1..20] of 1..20;  (*declare an array of 20 integers within the
                                range of 1 to 20 inclusive *)
    x,y,z,n,r,t,b,c,s,f,comparisons,switches:integer;
                              (*declare several integer variables*)
    ok:boolean;  (*declare a true/false boolean variable*)

Procedure InitArray;   (*declare a user-defined procedure*)
         begin
              for x:=1 to 20 do
                 begin
                      a[x]:=rnd_int(20);  (*get a random integer and assign it
                                            to an element of the array.  The
                                            random integer is in the range of
                                             1 to 20 inclusive.*)
                      gotoxy(10,x); (*move cursor to column 10, row x on the
                                      screen*)
                      write(a[x]:2); (*display the number, in right justified
                                       format for 2 digits*)
                 end;
              gotoxy(5,21);
              write('SHELL-METZNER SORT IN PROGRESS');
              gotoxy(5,22);
              write('comparisons 0 switches 0);
              comparisons:=0;
              switches:=0;
         end;
Procedure WriteNumber(f:integer);  (*pass a value f to this procedure, not to
         begin
              gotoxy(10,f);
              write(a[f]:2);
         end;
Procedure WriteSwitches;
         begin
              gotoxy(30,22);
              write(switches:3);
              switches:=switches+1;
         end;
Procedure WriteComparisons;
         begin
              gotoxy(17,22);
              write(comparisons:2);
              comparisons:=comparisons+1;
         end;
Procedure Switch(Var x,y:integer);  (*pass values x and y to get changeed and
                                      passed back to the main program*)
         var z:integer;  (*we'll need another workspace variable*)
```



```
         begin
              z:=x;   (*do the switch*)
              x:=y;
              y:=z;
         end;

begin   (*this is the main program, at last! *)
     InitArray;  (*initialize the random array*)
     n:=20;      (*the number of elements to be sorted*)
     r:=n;      (*the binary divisor*)
     repeat     (*start a repeat..until loop*)
     r:=r div 2;  (*integer division by 2*)
     for c:=1 to 20-r do  (*start a for loop*)
        begin
             b:=c+r;
             if a[c]>a[b] then  (*primary comparison*)
               begin
                    switch(a[b],a[c]);  (*switch the elements*)
                    WriteNumber(c);    (*and re-display them*)
                    WriteNumber(b);
                    WriteSwitches;  (*display a switch*)
                    t:=c;
                    if t>r then
                    repeat           (*backtrack and do switches*)
                    ok:=true;
                    WriteComparisons;   (*write a comparison*)
                    if not(a[t-r]<a[t]) then    (*secondary comparison*)
                      begin
                           switch(a[t-r],a[t]);
                                                    backtracking*)
                           WriteNumber(t-r);
                           t:=t-r;
                           WriteSwitches;
                           ok:=false;
                      end;
                    until (ok) or not(t>r);
               end;
          end;
     until not(r>1);
end.                                        (*end of program*)
```

At first, this may look hideous. But note the style of the program. Its procedures and variables are declared up front. The procedures themselves resemble extended basic subprograms. They are, in fact, equivalent, and there are statements like 'SUBEXIT' in Pascal, if you need it. Pascal also has a Goto statement, but it is only valid within a small scope of program code.

The first procedure, InitArray, initializes the programs main array and variables. It displays the array and a counter message at the bottom of the screen. The second procedure, WriteNumber, gets a value passed to it from the calling program and displays it, at colum 10 and the row according to the value itself. The procedure WriteSwitches, simply updates the counter message at the bottom of the screen, as does WriteComparisons. The procedure Switch takes two variables, x and y, switches them using the variable z, and returns them to the calling program. Note the 'var' statement in that procedure declaration. That allows you to pass a value back to the main explicitly. But you can do it unofficially, like I did in the InitArray procedure. Passing an entire array may take up extra memory when I do i explicitly, so I decided not to pass it by value, but to

use it as a global variable. (more on that later.) The main program is the sort itself (without GOTO's!!). According to the Shell-Metzner format, one splits the list in two, compares the first element with the first element in the second half, and so on. When the entire list is compared/switched, the routine splits the list into fourths, and repeats. At times, the procedure may be avoiding some elements, so it becomes necessary to backtrack the list. This sort works especially well on very long lists.

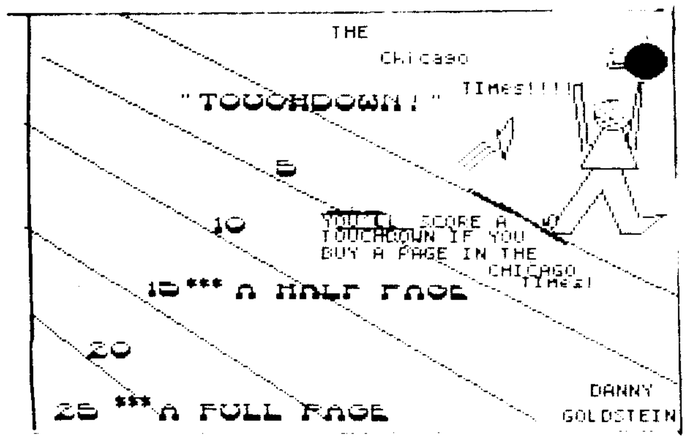
Note the placement of the statements. You can tell at a glance where a certian loop is. I could have just lined them all up at column one, because the compiler could care less. It only looks for a statement and a semicolon in the right place. But as you can see, it's easy to read. Note that, even though I used a mixture of lower-case and capital letters, you may use either, since the compiler automatically converts for you. Also note the begin...end; pairs. They surround multiple statements. This program may be a big step for beginners, but it is good practice to learn while you type! Enter this program using the E)dit command, and save the file. Compile it and execute it. You'll see how fast p-code is! The instructions for editing may be found in your editor/filer/utilities manual and instructions for compiling may be found in the compiler manual.

Let me say that this program took me a while to write from an even more hideous BASIC program with tons of GOTO's, yet I succeeded. The Pascal program is easy to read and step through.

If any of you have any questions, please leave me a message on the bbs. I'm user #318, ya know, THE FROGMAN!!

By the way, a number of you have expressed interest in purchasing a complete p-code system or the manuals for your current system. To get the manuals only, they are $3.00 apiece (shipping charge) and may be ordered from Texas Instruments, via the Customer Service dept in Lubbock. Call (806) 741-2000 and ask for SCustomer Service. I hear they have other manuals too.
To get a p-code card and software plus all the manuals, call Richard Fleetwood in Dallas at (214) 328-9257. He has quite a few systems, and they are brand spanking new. He's asking $100.00 for each. That's a bargian compared to my sytem, which sold for $200.00 last year.

The number for Pecan Software Systems, the new supplier for p-system software, is (718) 851-3100. Call them for a catalog. If we bug them enough, they'll HAVE to give us their best. PSSSSST!! rumor has it that we'll be soon receiving a FORTRAN 77 compiler. Stay tuned....



DATELINE—LUBBOCK, TEXAS—UPI

Sam Lubbock, great great great grandson of this towns founder, William Lubbock and former husband of Texincia, has announced several policy changes coinciding with the recent successful takeover of IBM by Texas Instruments.

Changes are being instituted immediately. First, Mr Lubbock states that the TI cares HOT LINE will now have operators that know what they are doing. Also, Texas Instruments will immediately resume support of the worlds finest computer, the TI99/4A.
MS-DOS will be replaced by FUNNELWEB so as to make all machines compatible. The new conglomeration welcomes software ideas from Users Groups around the country. Users who have supported the machine outrank any engineer on staff, says Mr. Lubbock. Reportedly he has already taken away the pencils of his engineering staff and next will take away their jobs.

Said Mr Lubbock, "We're tired of them changing rules in midstream. My attitude has always been, if you've got something that works, don't fix it."

----------HAPPY APRIL FOOLS DAY----------

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PRACTICAL PROGRAMING PRACTICES

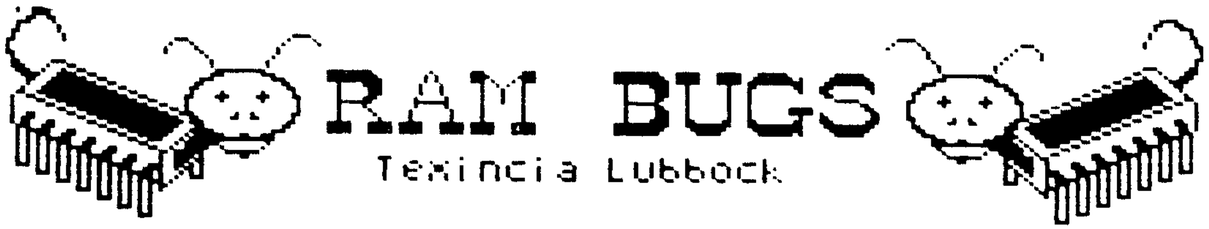
This Program will allow you to Load, Save, Edit, and print 4 inch by 6 inch postcards. To run this program you need the Extended Basic module, RS232 interface, and a printer. The program will also allow you to use graphics on your postcards provided that you are using the original TI Printer or one compatable with it such as the Gemini 10, SG-10, or a newer model. Give it a try. You may also change the print, line spacing, and darkness of the printer with this program. When editing a card, keep in mind that this program acts like TI-Writer in that you never see the entire postcard at once but toggle between two sides. Enjoy.

```
100 !+++++++++++++++!
110 !   "POSTCARD"   !
120 ! BY JOHN BEHNKE !
130 !REQUIRES X-BASIC!
140 !PRINTS 4x6 CARDS!
150 !   MARCH 1987   !
160 !+++++++++++++++!
170 DATA 235,231,236,233,234
,237,232,238,167,164,165,166
,168,174,173,175,190,239
180 AA=1 :: Z$="YNyn"
190 CALL CLEAR :: CALL SCREE
N(5):: FOR I=0 TO 14 :: CALL
 COLOR(I,16,1):: NEXT I
200 ON ERROR 1900
210 DISPLAY AT(6,11):"POSTCA
RD": :"       BY JOHN BEHNKE
"
220 DISPLAY AT(10,1):"
   MARCH 1987"
230 DIM A$(22),B$(22),C$(22)
,D$(18),E$(18),F$(5),G$(127)
240 F$(1)="DIS/FIX" :: F$(2)
="DIS/VAR" :: F$(3)="INT/FIX
" :: F$(4)="INT/VAR"
250 F$(5)="PROGRAM   " :: GO
TO 300
260 A,B,C,D,E,F,G,H,I,J,K,L,
M,Z=0 :: H$,I$,J$,K$,L$,M$,N
$,O$,P$=""
270 CALL DELSPRITE :: CALL C
HAR :: CALL HCHAR :: CALL KE
Y :: CALL VCHAR
280 CALL SPRITE :: CALL LOCA
TE
290 !@P-
300 CALL CHAR(126,"FFFFFFFFF
OFOFOFOFFFFFFFFOOOOOOOOFFFFF
FFFOFOFOFOF")
310 CALL CHAR(129,"FOFOFOFOF
OFOFOF")
320 CALL CHAR(130,"OFOFOFOFO
FOFOFOFFFOFOFOFOFFFFFFFFFOOOOO
OOOFFFFFFFF")
330 CALL CHAR(133,"OFOFOFOFF
FFFFFFF")
340 H$=CHR$(27):: D$(1)=H$&"
B"&CHR$(4):: D$(2)=H$&"B"&CH
R$(5)
350 D$(3)=H$&"B"&CHR$(1):: D
$(4)=H$&"B"&CHR$(2):: D$(5)=
H$&"B"&CHR$(3)
360 D$(6)=H$&"W"&CHR$(1):: D
$(7)=H$&"W"&CHR$(0):: D$(8)=
H$&"G" :: D$(9)=H$&"H"
370 D$(10)=H$&"E" :: D$(11)=
H$&"F" :: D$(12)=H$&"2" :: D
$(13)=H$&"1"
380 D$(14)=H$&"O" :: D$(15)=
H$&"U"&CHR$(1):: D$(16)=H$&"
U"&CHR$(0)
390 FOR A=0 TO 17 :: READ B
:: E$(A)=CHR$(B):: NEXT A
400 CALL CHAR(138,"708888887
0000000207OF8702000000020508
85020000000F8888888F8")
410 CALL CHAR(134,"0004023F0
204000010385410101000000000
808082A1C0800204OFC402")
420 CALL CHAR(142,"008850205
0880000007E7E7E7E7E7E"):: GO
TO 840
430 DISPLAY AT(1,1):"CTRL 9
to Abort" :: D$(16)=H$&"U"&C
HR$(0)
440 CALL HCHAR(2,3,127,28)::
 CALL HCHAR(24,3,132,28):: G
OSUB 740
450 FOR A=1 TO 21 :: GOSUB 7
40 :: ACCEPT AT(A+2,1)BEEP S
IZE(-28):A$(A)
460 IF SEG$(A$(A),1,1)=CHR$(
159)THEN 500
470 GOSUB 790 :: ACCEPT AT(A
+2,1)BEEP SIZE(-28):B$(A)
480 IF SEG$(B$(A),1,1)=CHR$(
159)THEN 500
490 NEXT A
500 DISPLAY AT(1,19):"Done?
N" :: ACCEPT AT(1,25)VALIDAT
E(Z$)BEEP SIZE(-1):I$
510 IF SEG$(A$(A),1,1)=CHR$(
159)THEN A$(A)=""
520 IF SEG$(B$(A),1,1)=CHR$(
159)THEN B$(A)=""
530 IF I$="N" OR I$="n" THEN
 440
540 GOTO 840
550 CALL CLEAR :: DISPLAY AT
(1,1):"PRINTER NAME: PIO"
560 ACCEPT AT(1,15)BEEP SIZE
(-14):J$ :: DISPLAY AT(1,1):
"HOW MANY: 1"
570 ACCEPT AT(1,11)VALIDATE(
DIGIT)BEEP SIZE(-4):C
580 CALL HCHAR(2,3,127,28)::
 CALL HCHAR(24,3,132,28):: G
OSUB 740
590 DISPLAY AT(1,18):"SCANNI
NG..." :: CALL SPRITE(#1,134
,16,16,9)
600 FOR A=1 TO 21 :: Z=LEN(B
$(A))
610 IF Z>0 THEN C$(A)=A$(A)&
RPT$(" ",28-LEN(A$(A)))&B$(A
)ELSE C$(A)=A$(A)
620 CALL LOCATE(#1,9+A*8,8):
: IF LEN(C$(A))=0 THEN 670
630 FOR D=126 TO 143 :: E=0
:: Z=LEN(C$(A)):: F=POS(C$(A
),CHR$(D),E+1)
640 IF F=0 THEN 660 ELSE C$(
A)=SEG$(C$(A),1,F-1)&E$(D-12
6)&SEG$(C$(A),F+1,Z-F)
650 IF F<LEN(C$(A))THEN E=F
:: GOTO 640
660 NEXT D
670 NEXT A :: OPEN #1:J$ ::
PRINT #1:H$&"C"&CHR$(0)&CHR$
(4)
680 DISPLAY AT(1,18):"A TO A
BORT" :: FOR A=C TO 1 STEP -
1
690 DISPLAY AT(1,10)SIZE(5):
A :: PRINT #1: : :: FOR G=1
TO 21 :: CALL KEY(0,D,H)
700 IF D=65 OR D=97 THEN 730
710 CALL LOCATE(#1,9+G*8,8)
720 PRINT #1:C$(G):: NEXT G
:: PRINT #1:CHR$(12):: NEXT
A
730 CLOSE #1 :: CALL DELSPRI
TE(#1):: GOTO 840
740 CALL VCHAR(2,31,32,23)::
 CALL HCHAR(2,2,126):: CALL
VCHAR(3,2,129,21)
750 CALL HCHAR(24,2,131):: D
ISPLAY AT(1,19):"LEFT SIDE"
760 DISPLAY AT(3,1):A$(1):A$
(2):A$(3):A$(4):A$(5):A$(6):
A$(7):A$(8):A$(9):A$(10)
770 DISPLAY AT(13,1):A$(11):
A$(12):A$(13):A$(14):A$(15):
A$(16):A$(17):A$(18)
780 DISPLAY AT(21,1):A$(19):
A$(20):A$(21):: RETURN
790 DISPLAY AT(3,1):B$(1):B$
(2):B$(3):B$(4):B$(5):B$(6):
B$(7):B$(8):B$(9):B$(10)
800 DISPLAY AT(13,1):B$(11):
B$(12):B$(13):B$(14):B$(15):
B$(16):B$(17)
810 DISPLAY AT(20,1):B$(18):
B$(19):B$(20):B$(21)
820 CALL VCHAR(2,2,32,23)::
CALL HCHAR(2,31,128):: CALL
VCHAR(3,31,130,21)
830 CALL HCHAR(24,31,133)::
DISPLAY AT(1,19):"RIGHT SIDE
" :: RETURN
840 CALL CLEAR
850 CALL HCHAR(1,12,126):: C
ALL HCHAR(1,13,127,8):: CALL
 HCHAR(1,21,128)
860 DISPLAY AT(2,10):CHR$(12
9)&"POSTCARD"&CHR$(130)
870 CALL HCHAR(3,3,132,28)::
 CALL HCHAR(3,12,131):: CALL
 HCHAR(3,21,133)
880 CALL HCHAR(3,2,132):: CA
LL HCHAR(3,31,132)
890 CALL VCHAR(4,2,129,20)::
 CALL VCHAR(4,31,130,20):: C
ALL HCHAR(23,2,127,30)
900 DISPLAY AT(5,6):"1 - LOA
D A CARD": :"      2 - SAVE A
 CARD"
910 DISPLAY AT(9,6):"3 - EDI
T A CARD": :"      4 - PRINT
A CARD"
920 DISPLAY AT(13,6):"5 - PR
INTER MODES": :"      6 - CLE
AR MEMORY"
930 DISPLAY AT(17,6):"7 - CA
TALOG A DISK": :"      8 - DI
SPLAY COLORS"
940 DISPLAY AT(21,6):"9 - EX
IT PROGRAM"
950 DISPLAY AT(24,3):"Use Ar
row Keys To Select"
960 CALL HCHAR(3+AA*2,7,134)
970 CALL KEY(0,H,D):: IF D=0
```

```
 THEN 970
980 IF H=88 OR H=120 OR H=69
 OR H=101 THEN CALL HCHAR(3+
AA*2,7,32)
990 IF H=88 OR H=120 THEN AA
=AA+1
1000 IF H=69 OR H=101 THEN A
A=AA-1
1010 IF AA=0 THEN AA=9
1020 IF AA=10 THEN AA=1
1030 IF H<>13 THEN 960
1040 ON AA GOTO 1050,1050,13
10,550,1100,1270,1440,1830,1
280
1050 DISPLAY AT(24,1):"FILEN
AME: DSK1.CARD" :: ACCEPT AT
(24,14)BEEP SIZE(-15):K$
1060 K$="DSK"&K$ :: OPEN #1:
K$ :: FOR A=1 TO 21
1070 IF AA=1 THEN LINPUT #1:
L$ :: A$(A)=SEG$(L$,1,28)::
B$(A)=SEG$(L$,29,28)
1080 IF AA=2 THEN PRINT #1:A
$(A);B$(A)
1090 NEXT A :: CLOSE #1 :: G
OTO 840
1100 DISPLAY AT(1,8)ERASE AL
L:"PRINTER MODES": :"PRINTER
 NAME: PIO"
1110 ACCEPT AT(3,15)BEEP SIZ
E(-14):J$
1120 DISPLAY AT(5,1):"<N> NL
Q ON":"<N> NLQ OFF":"<N> PIC
A MODE":"<N> ELITE MODE"
1130 DISPLAY AT(9,1):"<N> CO
NDENSED MODE":"<N> EXPANDED
MODE ON"
1140 DISPLAY AT(11,1):"<N> E
XPANDED MODE OFF":"<N> DOUBL
E STRIKE ON"
1150 DISPLAY AT(13,1):"<N> D
OUBLE STRIKE OFF"
1160 DISPLAY AT(14,1):"<N> E
MPHASIZED ON":"<N> EMPHASIZE
D OFF"
1170 DISPLAY AT(16,1):"<N> 1
/6  INCH LINE SPACING  <N> 7
/72 INCH LINE SPACING"
1180 DISPLAY AT(18,1):"<N> 1
/8  INCH LINE SPACING  <N> U
NI-DIRECTION PRINT ON"
1190 DISPLAY AT(20,1):"<N> U
NI-DIRECTION PRINT OFF <N> E
NTER OTHER LINE SPACING"
1200 FOR A=5 TO 20 :: ACCEPT
 AT(A,2)VALIDATE(Z$)BEEP SIZ
E(-1):I$
1210 IF I$="Y" OR I$="y" THE
N OPEN #1:J$ :: PRINT #1:D$(
A-4);: CLOSE #1
1220 NEXT A :: ACCEPT AT(21,
2)VALIDATE(Z$)BEEP SIZE(-1):
I$
1230 IF I$="N" OR I$="n" THE
N 840
1240 DISPLAY AT(21,1):"NEW L
INE SPACING =12/72 inch"
1250 ACCEPT AT(21,19)VALIDAT
E(DIGIT)BEEP SIZE(-2):I :: O
PEN #1:J$
1260 PRINT #1:H$&"A"&CHR$(I)
:: CLOSE #1 :: GOTO 840
1270 FOR A=1 TO 21 :: A$(A),
B$(A)="" :: NEXT A :: GOTO 8
40
1280 DISPLAY AT(24,1):"
ARE YOU SURE?  N"
1290 ACCEPT AT(24,21)VALIDAT
E(Z$)BEEP SIZE(-1):I$ :: IF
I$="N" OR I$="n" THEN 84
0
1300 CALL CLEAR :: END
1310 DISPLAY AT(1,7)ERASE AL
L:"SPECIAL GRAPHICS"
1320 DISPLAY AT(4,3):CHR$(12
6)&" = FCTN W     "&CHR$(127)
&" = FCTN V"
1330 DISPLAY AT(6,3):CHR$(12
8)&" = CTRL ,     "&CHR$(129)
&" = CTRL A"
1340 DISPLAY AT(8,3):CHR$(13
0)&" = CTRL B     "&CHR$(131)
&" = CTRL C"
1350 DISPLAY AT(10,3):CHR$(1
32)&" = CTRL D     "&CHR$(133
)&" = CTRL E"
1360 DISPLAY AT(12,3):CHR$(1
34)&" = CTRL F     "&CHR$(135
)&" = CTRL G"
1370 DISPLAY AT(14,3):CHR$(1
36)&" = CTRL H     "&CHR$(137
)&" = CTRL I"
1380 DISPLAY AT(16,3):CHR$(1
38)&" = CTRL J     "&CHR$(139
)&" = CTRL K"
1390 DISPLAY AT(18,3):CHR$(1
40)&" = CTRL L     "&CHR$(141
)&" = CTRL M"
1400 DISPLAY AT(20,3):CHR$(1
42)&" = CTRL N     "&CHR$(143
)&" = CTRL O"
1410 DISPLAY AT(24,4):"PRESS
 ANY KEY TO EDIT."
1420 CALL KEY(0,D,H):: IF H=
0 THEN 1420
1430 GOTO 430
1440 DISPLAY AT(1,9)ERASE AL
L:"CATALOG DISK" :: CALL HCH
AR(2,1,132,32)
1450 DISPLAY AT(5,1):"DRIVE?
```



```
 (0-5): <1>"
1460 ACCEPT AT(5,16)VALIDATE
("012345")BEEP SIZE(-1):M$
1470 IF M$<>"0" THEN 1490 EL
SE DISPLAY AT(5,1):"DEVICE N
AME? <               >"
1480 ACCEPT AT(5,15)BEEP SIZ
E(-13):M$
1490 M$="DSK"&M$&"." :: DISP
LAY AT(6,1):"OUTPUT TO PRINT
ER? (Y/N): N"
1500 ACCEPT AT(6,27)VALIDATE
(Z$)BEEP SIZE(-1):I$ :: IF I
$="y" THEN I$="Y"
1510 IF I$<>"Y" THEN 1530 EL
SE DISPLAY AT(6,1):"PRINTER
NAME: PIO"
1520 ACCEPT AT(6,15)BEEP SIZ
E(-14):J$
1530 DISPLAY AT(8,1):"READIN
G...": : : : : :"A TO ABORT"
1540 CALL HCHAR(10,2,126)::
CALL HCHAR(10,3,127,28):: CA
LL HCHAR(11,2,129)
1550 CALL HCHAR(10,31,128)::
 CALL HCHAR(11,31,130):: CAL
L HCHAR(12,2,131)
1560 CALL HCHAR(12,3,132,28)
:: CALL HCHAR(12,31,133)
1570 OPEN #1:M$,INPUT ,RELAT
IVE,INTERNAL :: INPUT #1:N$,
G,G,D :: FOR A=1 TO 127
1580 CALL KEY(0,J,H):: IF J=
65 OR J=97 THEN 1640
1590 INPUT #1:O$,K,L,M :: IF
 LEN(O$)=0 THEN 1640
1600 G$(A)=O$&RPT$(" ",11-LE
N(O$))&STR$(L)&RPT$(" ",5-LE
N(STR$(L)))&F$(ABS(K))
1610 IF ABS(K)<5 THEN P$=" "
&STR$(M):: G$(A)=G$(A)&SEG$(
P$,LEN(P$)-2,3)
1620 IF K<1 THEN G$(A)=G$(A)
&" Y"
1630 DISPLAY AT(11,1):G$(A):
: NEXT A
1640 CLOSE #1
1650 CALL CLEAR :: IF I$="Y"
 THEN OPEN #1:J$
1660 PRINT TAB(9);"A TO ABOR
I":TAB(9);"P TO PAUSE": :
1670 PRINT M$;" - DISKNAME=
";N$:"AVAILABLE=";D;"USED=";
G-D
1680 IF I$="Y" THEN PRINT #1
:M$;" - DISKNAME= ";N$:"AVAI
LABLE=";D;"USED=";G-D
1690 PRINT :" FILENAME  SIZE
  FILETYPE  P---------- ----
 ---------- -";
1700 IF I$="N" THEN 1720
1710 PRINT #1:" FILENAME  SI
ZE  FILETYPE  P":"----------
 ---- ---------- -"
1720 FOR A=1 TO A :: CALL KE
Y(0,D,H):: IF D=65 OR D=97 T
HEN 1760
1730 IF D=80 OR D=112 THEN 1
810
1740 PRINT G$(A):: IF I$="Y"
 THEN PRINT #1:G$(A)
1750 NEXT A
1760 IF I$="Y" THEN CLOSE #1
1770 PRINT :"LIST AGAIN (Y/N
)?"
1780 CALL KEY(0,D,H):: IF H=
0 THEN 1780
1790 IF D=89 THEN 1650
1800 GOTO 840
1810 FOR D=1 TO 50 :: NEXT D
 :: CALL KEY(0,D,H):: IF H=0
 THEN 1810
1820 GOTO 1740
1830 DISPLAY AT(24,1):"SCREE
N COLOR? (2-16): <2 >"
1840 ACCEPT AT(24,24)VALIDAT
E(DIGIT)BEEP SIZE(-2):I
1850 DISPLAY AT(24,1):"LETTE
R COLOR? (2-16): <16>"
1860 ACCEPT AT(24,24)VALIDAT
E(DIGIT)BEEP SIZE(-2):A
1870 IF A=I THEN 1830
1880 CALL SCREEN(I):: FOR I=
1 TO 14 :: CALL COLOR(I,A,1)
:: NEXT I
1890 GOTO 840
1900 CALL CLEAR :: PRINT "ER
ROR, RE-BOOTING..." :: RUN
```



SF=5 YTD=13 AVERAGE=4.3

I *BARELY* made it to this months meeting on time because one of my *FAVORITE* group members couldn't remember how to work his hand and *GET THE NEWSLETTERS MAILED ON TIME!* It seems that *someone* made the decision to delay the mailing of this months issue when he did not receive the insert for the *SURVEY* from the printer along with the completed newsletter! Perhaps the EXECUTIVE BOARD should see if another group member - or even perhaps the printer - can label and mail the newsletters as well as print them so the membership is insured of getting them on time!

I must say I learned quite a lot from the printer demonstration given at the last meeting. I never knew that lubricating a printer would extend its life nor did I know it was necessary to occasionally clean the print heads. I always thought it only necessary to change the ribbon when the printing got light.

I felt a little sorry for *JAMES DiNOVO* when he attempted to demonstrate his *CHECKBOOK PROGRAM* and the power supply died. Guess he'll have to reschedule for another time.

I also enjoyed the short discussion given by *BUTCH GOLDSTEIN* on all the new features on the *OFFICIAL CHICAGO TI-USERS GROUP BBS (312-966-2342).* However, after all the fighting on there and some of the other BBS'S I have seen in the last month, I am a little reluctant to call any of them any more. Read on, however, I may have a solution...

After *FINALLY* receiving last months issue of the *NEWSLETTER* and giving it my usual thorough reading, I have decided that *DAVE HAKELY, SAM PINCUS, and BUTCH GOLDSTEIN* can remove *APRIL* from their list of months in which they have nothing planed for the *"REGULAR" AGENDA.* After a careful review of the most recent round of *GROUP BOARD MEMBER BATTLES*, I have reached the conclusion that *THIS IS AN ANNUAL EVENT!*

Therefore, I am now negotiating with *DON KING, the AMERICAN BOXING ASSOCIATION* , and the various *CABLE COMPANIES* (did you ever stop to think about how many there are?) for the rights to the broadcast of the *ANNUAL OFFICIAL CHICAGO TI-USER'S GROUP TAG TEAM MIXED BOXING EXTRAVAGANZA.*

CABLE COMPANY OFFICIALS inform me that they can probably charge their viewers $25.00 on a PAY-AS-YOU-VIEW BASIS - AND we can charge $30.00 for a RING SIDE SEAT. Bring your *CHICAGO TI-USER'S GROUP MEMBERSHIP CARD* and get in free. Prefered seating will be accorded those who call the OFFICIAL CHICAGO TI-USERS GROUP BBS (312-966-2342). Callers of other sanctioned BBS'S (*TI-WEST, TI-SOUTH, ETC.*) will be awarded the next

best seating, and callers of the *HANK ELLERMAN'S PAINFULLY SLOW TI-BBS* will be required to clean up the blood after the event. Be sure to also bring a copy of your most recent telephone bill as proof of calling the correct BBS.

YOURS TRULY will gladly be the timekeeper and *RING MY BELLS* at the appropriate times.

GRANT SCHMALGAMEIER will *HAVE THE TICKETS PRINTED FOR A GOOD PRICE* and *MAKE SURE THEY'RE MAILED IN TIME FOR THE MATCH, DON (NAIR DOME) JONES* will provide the *SPORTS FANS* with pre-fight entertainment, *SAM PINCUS* promises to provide the *BOXING GLOVES, RICH (the Hrench) KLEIN* will be parking and repairing cars, *NICK IACOVELLI* will determine the program to be followed in the locker room.

DAN GRONOWSKI and *DANNY GOLDSTEIN* promise some fabulous art work for the pre-fight promotion, *BUZZ KRANTZ* and *JOHN BEHNKE* will head up the security detail, *BUTCH GOLDSTEIN* will be in charge of intra-event radio communications, *MIKE SCHAPPELL* will provide souvenir T-Shirts and Buttons of the event, *BOB DEMETER* will provide maps to all ticket holders.

KEN CZERWINSKI will secure the room for the event, *CHUCK LEVITT* will be in charge of the camera pool for the Cable networks, *SANDY (the Mouth) BARTELS* will referee, and *DAVE HAKELY* will *PROVIED ANALYSIS* - in the *MAY ISSUE* - to anyone who has their brains bashed out in the ring. *CAROLE GOLDSTEIN* could provide a *SPECIAL SUPER SPORTS FAN ISSUE* of the Newsletter in her spare time.

The *CONCESSIONEERS* will be making the rounds with various treats. Look for *MIKE POLONSKY* for *NUTS, AL STUMP* for *POPCORN. PAUL FARBER* if you want *COKE®* (the drinkable kind). *CHUCK HOFF* will handle the *ICE CREAM* sales.

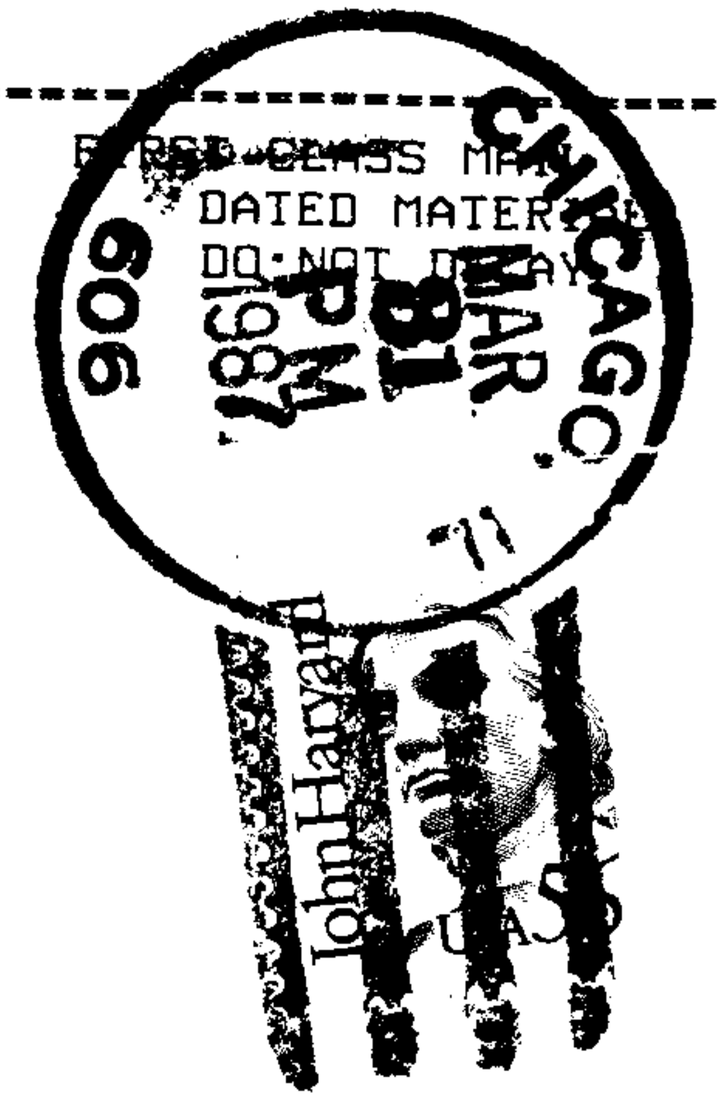
DON KING (the boxing promoter, remember?) informs me that we should have no problem raising enough money to buy each group member a new *GENEVE 9640 COMPUTER* and we should still have enough money left over to re-establish a computer publication headed by the esteemed *GARY KAPLAN* (and pay all his legal bills) - Sorry *DON JONES*, but that probably won't leave enough for your *SOCIAL MIXER* (Did HAROLD WASHINGTON give you that idea?)

Now on to more important matters. I have decided that if *CAROLE GOLDSTEIN* leaves this newsletter as *EDITOR* for the *CHICAGO TRIBUNE* I am going with her. *CAROLE* has promised me an *ASSOCIATE POSITION* as a *CONSULTANT* to the *"INC" COLUMN.*

Now I want each of you to take a good look at yourselves and all the fighting that's been going on lately. DON'T YOU ALL LOOK SILLY!?!

Have a happy April Fools Day. See you at the meeting...

CHICAGO TI USER'S GROUP
PO BOX 578341
CHICAGO, IL 60657



Delbert H. Sprowls
Member #502/87
108 Petroleum - P.O. Box 208
Claysville, PA 15323

REMARKS

Carole Goldstein

Special thanks this month to everyone who got their article in on time for this issue. See, it is possible to stick to a deadline.

Hope you enjoy Anne Dhein's article on TI Writer Graphics. This was sent to us from Iowa via Colorado. This is the first half of a two part article. The second half will be in the April 30 edition.

When you open your newsletter this month, our newest group survey should fall into your lap. This survey was put together by Dave Wakely and intended for the last issue. But due to circumstances beyond our control it did not make that issue. Please take the time to fill it out and return it to the group either by mail to the group box or bring it to the April meeting. It is very important in planning future directions that this group will take. If you have any comments, please use the space provided. Results of the survey will be published at some future date.

Don't forget also to bring your programming contest entries to the April meeting. Judging is set for May and as usual the prizes consist of **$$$$$**. So if you haven't started that program, get to work, your programming days are numbered.